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EXAMINER

HALPERN, MARK

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 10/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                |  |
|------------------------------|-------------------------------|--------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>09/830,029 | Applicant(s)<br>KOLBERG ET AL. |  |
|                              | Examiner<br>Mark Halpern      | Art Unit<br>1731               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7/2/03</u> | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

- 1) Acknowledgement is made of Amendment received 7/2/2003. Applicants amend claims 7-9, and offer new claims 13-23, for consideration.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 2) Claims 7-23, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 7, lines 5-7, recites "arranged so that the glass melt has a flow direction that is essentially horizontal". There is no support for this recitation in the Specification.

Claim 13, lines 3-4, recites "for channeling the melt in a horizontal flow direction". There is no support for this recitation in the Specification.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) Claims 7-14, 21-23, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mateika (4,687,646).

Claims 7, 13, 23: Mateika teaches a device for melting/refining glass which is essentially arranged horizontally (Fig. 1, the device is placed on a flat horizontal surface); has an inlet and outlet for the glass melt (Fig. 1, ref. no. 41, 5, and col. 4, lines 2-10, the opening at the top of the crucible serves as the inlet and the bottom of the crucible serves as the outlet); the channel is constructed by having a plurality of metal pipes connected to a cooling medium (Fig. 1, ref. no. 5, col. 2, lines 56-68) and an HF coil being assigned to the channel for input of HF energy to the melt (col. 3, lines 40-51). The glass melt has a flow that is horizontal, or in the least it would have been obvious, to one skilled in the art at the time the invention was made, that the glass melt in the device move in a flow direction that is essentially horizontal.

Claims 8, 14: Mateika teaches that the pipes and HF coil are at an angle to one another (Fig. 1, ref. no. 5 and 3, the HF coil and the pipes are a right angle to one another). This reads on the windings being curved.

Claim 9: Mateika teaches that the pipes are arranged in the direction of flow of the melt (Fig. 1, ref. no. 41, 5, the glass inherently flows counter clockwise in the crucible due to the colder walls and hotter middle portion, thus the glass moves in the same direction as the pipes are arranged. Also, the glass is removed from the bottom of the crucible but introduced through the open top, so the glass moves in the same direction as the pipes are arranged).

Claims 10-12: Mateika teaches the pipes are shunted to one another and arranged in a U-shape to form the cage-like crucible (Fig. 1, ref. no.5, 17, "Distribution Ring", the "Distribution Ring" serves as the shunt and the pipes 5, 17 are in the form of a square U-shape). Mateika also teaches the pipes are joined together for the purpose of forming a shunt (Fig. 1, ref. no. 5 and "Distribution Ring").

Claim 21: Mateika, in Figure 1, shows a second coil 39 positioned apart from the first coil 37 (col. 3, lines 12-56).

Claim 22: Mateika, in Figure 1, shows a cooling conduit with entry of cooling medium 29 and exit of cooling medium 31, also a cooling medium entry at 11 and outlet at 13 (col. 3, lines 1-35).

4) Claims 7-14, 23, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wenckus (4,049,384).

Claims 7, 13, 23: Wenckus teaches a device for melting/refining glass which is essentially arranged horizontally (Fig. 2, the device is placed on a flat horizontal surface); has an inlet and outlet for the glass melt (Fig. 2, ref. no. 10, the opening at the top of the crucible serves as both the opening of the crucible and as the outlet); the channel is constructed by having a plurality of metal pipes connected to a cooling medium (Fig. 1 ref. no. 12) and an HF coil being assigned to the channel for input of HF energy to the melt (col. 5, lines 45-50, Fig. 5, ref. no. 81). The glass melt has a flow that is horizontal, or in the least it would have been obvious, to one skilled in the art at the time the invention was made, that the glass melt in the device move in a flow direction that is essentially horizontal.

Claims 8, 14: Wenckus teaches that the pipes and HF coil are at an angle to one another (Fig. 2, ref. no. 81 and 12, the HF coil and the pipes are a right angle to one another). This reads on the windings being curved.

Claim 9: Wenckus teaches that the pipes are arranged in the direction of flow of the melt (Fig. 2, ref. no. 12, 81, the glass inherently flows counter clockwise in the crucible due to the colder walls and hotter middle portion, thus the glass moves in the same direction as the pipes are arranged. Also, the glass is removed from the top of the crucible, so the glass moves in the same direction as the pipes are arranged).

Claims 10-12: Wenckus teaches the pipes are shunted to one another and arranged in a U-shape to form the cage-like crucible (Fig. 1, ref. no. 12, 14, the distribution bustle 14 serves as the shunt and the pipes 12 are in the form of a square U-shape). Wenckus also teaches the pipes are joined together for the purpose of forming a shunt (Fig. 1, ref. no. 12 and 14).

5) Claims 7-14, 23, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sobelev (FR 2768257).

Claims 7, 13, 23: Sobelev teaches a device for melting/refining glass which is essentially arranged horizontally (Fig. 5, the device is placed on a flat horizontal surface); has an inlet and outlet for the glass melt (Fig. 5, ref. no. 30, 2, the opening at the top of the crucible serves as the opening of the crucible and the tube 2 serves as the outlet); the channel is constructed by having a plurality of metal pipes connected to a cooling medium (Fig. 5, ref. no. 21) and an HF coil being assigned to the channel for input of HF energy to the melt ( Fig. 5, ref. no. 35). The glass melt has a flow that is horizontal, or in the least it would have been obvious, to one skilled in the art at the time the invention was made, that the glass melt in the device move in a flow direction that is essentially horizontal.

Claims 8, 14: Sobelev teaches that the pipes and HF coil are at an angle to one another (Fig. 5, ref. no. 21 and 35, the HF coil and the pipes are a right angle to one another). This reads on the windings being curved.

Claim 9: Sobelev teaches that the pipes are arranged in the direction of flow of the melt (Fig. 5, ref. no. 21, 2, 30, the glass inherently flows counter clockwise in the crucible due to the colder walls and hotter middle portion, thus the glass moves in the same direction as the pipes are arranged. Also, the glass is removed from the bottom of the crucible, so the glass moves in the same direction as the pipes are arranged).

Claims 10-12: Sobelev teaches the pipes are shunted to one another and arranged in a U-shape to form the cage-like crucible (Fig. 5, ref. no. 21, 25, the distribution ring 25 serves as the shunt and the pipes 21 are in the form of a square U-shape). Sobelev also teaches the pipes are joined together for the purpose of forming a shunt (Fig. 5, ref. no. 21 and 25).

***Allowable Subject Matter***

6) Claims 15-20, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for indicating allowable subject matter is that the cited prior art does not show a device for refining a melt that includes a second heating device disposed at an open top (claim 15).

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7) Claims 7-22, are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 15-22, of copending Application No. 09/807,945. Although the conflicting claims are not identical,

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they are not patentably distinct from each other because claim 7 of the present application recites "a device for melting or refining a glass melt comprising a channel having an inlet and an outlet for the glass melt, said channel being arranged so that the glass melt has a flow that is essentially horizontal and having a plurality of metal pipes that can be connected to a cooling medium; and an HF coil being assigned to said channel for input of HF energy into the glass melt", and present claim 11 recites "wherein said plurality of metal pipes are configured in a U shape and are arranged ...,so that said plurality of metal pipes form a cage-type skull channel which is open at the top". Present claim 13 recites " a device for refining a melt, comprising: a channel having a first side, a second side, and an open top, said channel for channeling the melt in a horizontal flow direction; and a first coil for input of energy into the melt, said first coil having a plurality of windings being positioned about said channel so that each winding in said plurality of windings runs in said horizontal flow direction... but not across said open top". Said present claims are not patentably distinct from claim 15 of application 09/807,945, which recites "a device for melting or refining of glasses or glass ceramics comprising: a plurality of pipes forming a U-shape and lying next to one another so that said plurality of pipes form a cage-type skull channel having an open top, said plurality of pipes being able to be connected to a cooling medium, said cage-type skull channel for channeling a melt of the glasses or glass ceramics is a substantially horizontal flow direction; and a high-frequency oscillation circuit having an induction coil, said induction coil being disposed about a portion of said cage-type skull channel such that said open top is free of said induction wall". Present claims 15-20

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disclose "a second heating device" which is not patentably distinct from "an additional heating device" recited in claim 22 of application 09/807,945.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### **Conclusion**

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halpern whose telephone number is 703-305-4522. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (703) 308-1164. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9309.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Mark Halpern  
Patent Examiner  
Art Unit 1731